

Appln. No.: 10/757,844
Amendment Dated April 26, 2007
Reply to Office Action of January 29, 2007

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Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A method for displaying a video image from an image signal on a video display having a first side and a second side opposite the first side, the video image including an active image area having a first side and a second side opposite the first side, the active image area having a different aspect ratio than the video display, the method comprising the steps of:

calculating shift parameters for the active image with respect to the video display, wherein a method of calculation is selected from a group consisting of:

(a) determining, within a frame, whether pixel values of pixels in the frame and adjacent to an edge are within a predetermined intra-frame pixel value threshold;

(b) (i) identifying, within a first frame, pixel values of pixels adjacent to an edge, (ii) identifying, within a second frame, pixel values of pixels having positions corresponding to the positions of pixels in the first frame and adjacent to the edge and (iii) comparing the identified pixel values in the first frame to the corresponding identified pixel values in the second frame to determine if a difference between the identified pixel values in the first and second frames is within a predetermined inter-frame pixel value threshold; or

(c) both (a) and (b);

determining an offset corresponding to a difference between the first side of the video display and the first side of the active image area based on the calculated shift parameters;

adjusting the offset such that the active image is moved within the video display in at least a portion of an area defined by the first side and the second side of the video display; and

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storing the adjusted offset.

2. (Currently Amended) The method of claim 1, further comprising the step of:

~~calculating shift parameters for the active image with respect to the video display;~~

calculating a zoom value for enlarging the active image;

wherein the determining step further comprises determining the offset based on ~~the shift parameters and the zoom value.~~

3. (Original) The method of claim 1, wherein the image signal has a synchronization signal corresponding to the first side of the video display when the image signal is presented by the video display and wherein:

the determining step comprises determining a delay period between the synchronization signal and the first side of the active image area; and

the adjusting step comprises adjusting the delay period.

4. (Original) The method of claim 1, wherein the offset is adjusted such that the active image area is displayed in a plurality of different relative areas within the video display.

5. (Original) The method of claim 1, wherein the offset is adjusted such that when the active image area is moving toward the first side of the video display the active image area is moved toward the first side of the video display until the first side of the active image area corresponds to the first side of the video display, when the active image area is moving toward the second side of the video display the active image area is moved toward the second side of the video display until the second side of the active image area corresponds to the second side of the video display, and when the active image

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area reaches one of the first and second sides of the video display the active image area is moved toward the second and first sides of the video display, respectively.

6. (Original) The method of claim 1, wherein the offset is adjusted at a predefined rate, the predefined rate selected such that a human eye does not detect the movement of the active image area.

7. (Original) The method of claim 1, wherein the video display includes a plurality of pixel rows parallel to the first side of the video display, the delay period is adjusted at a predefined rate, and the predefined rate is less than two pixel rows per minute.

8. (Original) The method of claim 1, wherein the active image area is written to a memory buffer representing the video display prior to display on the video display and wherein the adjusting step comprises:

adjusting the position within the memory buffer where the active image area is written to move the position of the active image within the video display.

9. (Original) The method of claim 1, wherein the video display has a deflection coil apparatus that deflects a raster to produce the active image area on the video display, wherein the adjusting step comprises:

adjusting signals applied to the deflection coil apparatus to deflect the raster such that the position of the active image is moved within the video display.

10. (Currently Amended) A system for displaying a video image from an image signal on a video display having a first side and a second side opposite the first side, the video image including an active image area having a first side and a second side opposite the first side, the active image area having a different aspect ratio than the video display, the system comprising:

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means for calculating shift parameters for the active image with respect to the video display, wherein the means for calculating the shift parameters includes selecting from a group consisting of:

(a) determining, within a frame, whether pixel values of pixels in the frame and adjacent to an edge are within a predetermined intra-frame pixel value threshold;

(b) (i) identifying, within a first frame, pixel values of pixels adjacent to an edge, (ii) identifying, within a second frame, pixel values of pixels having positions corresponding to the positions of pixels in the first frame and adjacent to the edge and (iii) comparing the identified pixel values in the first frame to the corresponding identified pixel values in the second frame to determine if a difference between the identified pixel values in the first and second frames is within a predetermined inter-frame pixel value threshold; or

(c) both (a) and (b);

means for determining an offset corresponding to a difference between the first side of the video display and the first side of the active image area based on the calculated shift parameters;

means for adjusting the offset such that the active image area is moved within the video display in at least a portion of an area defined by the first side and the second side of the video display; and

means for storing the adjusted offset.

11. (Currently Amended) The system of claim 10, further comprising:

~~means for calculating shift parameters for the active image with respect to the video display~~

means for determining a zoom value for enlarging the active image;

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wherein the means for determining the offset determines the offset based on ~~the shift parameters and the zoom value.~~

12. (Original) The system of claim 10, further comprising:

means for storing a last position indicator corresponding to the last adjusted offset, wherein, at startup, the offset is set to the last adjusted offset.

13. (Original) The system of claim 10, wherein the active image area is written to a memory buffer representing the video display prior to display on the video display and wherein the adjusting means comprises:

means for adjusting the position within the memory buffer where the active image area is written to move the position of the active image area within the video display.

14. (Original) The system of claim 10, wherein the video display has a deflection coil apparatus that deflects a raster to produce the active image area on the video display, wherein the adjusting means comprises:

means for adjusting signals applied to the deflection coil apparatus to deflect the raster such that the position of the active image area is moved within the video display.

15. (Currently Amended) An apparatus for displaying a video image from an image signal on a video display having a first side and a second side opposite the first side, the video image including an active image area having a first side and a second side opposite the first side, the active image area having a different aspect ratio than the video display, the apparatus comprising:

an active video detector configured to determine shift parameters corresponding to a difference between the first side of the video display and the first side of the active image area by selecting from a group consisting of:

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(a) determining, within a frame, whether pixel values of pixels in the frame and adjacent to an edge are within a predetermined intra-frame pixel value threshold;

(b) (i) identifying, within a first frame, pixel values of pixels adjacent to an edge, (ii) identifying, within a second frame, pixel values of pixels having positions corresponding to the positions of pixels in the first frame and adjacent to the edge and (iii) comparing the identified pixel values in the first frame to the corresponding identified pixel values in the second frame to determine if a difference between the identified pixel values in the first and second frames is within a predetermined inter-frame pixel value threshold; or

(c) both (a) and (b);

a processor configured to determine an offset based on the calculated shift parameters and to adjust the offset;

an offset device coupled to the processor, the offset device configured to process the active image area for display on the video display responsive to the adjusted offset such that, when displayed, the active image area is moved within the video display in at least a portion of an area defined by the first side and the second side of the video display; and

a memory coupled to the processor for storing the adjusted offset.

16. (Original) The apparatus of claim 15, wherein the active video detector is further configured to determine a zoom value for enlarging the active image; and

wherein the shift parameters are based on the zoom value.

17. (Original) The apparatus of claim 15, wherein the processor determines a delay period corresponding to the offset responsive to a difference between a synchronization signal corresponding to the first side of the video display and the first side

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of the active image area and adjusts the delay period synchronization signal to move the active image within the video display.

18. (Original) The apparatus of claim 15, further comprising:

a memory for storing a last position indicator corresponding to the last adjusted offset, wherein, at startup, the processor adjusts the offset to the last adjusted offset responsive to the last position indicator.

19. (Original) The apparatus of claim 15, wherein the offset device includes a memory having a buffer area corresponding to the video display and wherein the processor adjusts the offset by adjusting the position within the buffer area where the active image area is written, thereby moving the active image area within the video display.

20. (Original) The apparatus of claim 15, wherein the offset device is a deflection coil apparatus coupled to the video display to deflect a raster to produce the active image area on the video display and wherein the processor adjusts the offset by modifying signals applied to the deflection of the raster, thereby moving the position of the active image area within the video display.

21. (Currently Amended) A tangible computer readable medium including software that is configured to control a general purpose computer to implement a method for displaying a video image from an image signal on a video display having a first side and a second side opposite the first side, the video image including an active image area having a first side and a second side opposite the first side, the active image area having a different aspect ratio than the video display, the method including the steps of:

calculating shift parameters for the active image with respect to the video display, wherein a method of calculation is selected from a group consisting of:

(a) determining, within a frame, whether pixel values of pixels in the frame and adjacent to an edge are within a predetermined intra-frame pixel value threshold;

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(b) (i) identifying, within a first frame, pixel values of pixels adjacent to an edge, (ii) identifying, within a second frame, pixel values of pixels having positions corresponding to the positions of pixels in the first frame and adjacent to the edge and (iii) comparing the identified pixel values in the first frame to the corresponding identified pixel values in the second frame to determine if a difference between the identified pixel values in the first and second frames is within a predetermined inter-frame pixel value threshold; or

determining an offset corresponding to a difference between the first side of the video display and the first side of the active image area based on the calculated shift parameters;

adjusting the offset such that the active image is moved within the video display in at least a portion of an area defined by the first side and the second side of the video display; and

storing the adjusted offset.

22. (Currently Amended) The tangible computer readable medium of claim 21, wherein the method implemented by the general purpose computer further includes the ~~steps~~ step of:

~~calculating shift parameters for the active image with respect to the video display;~~

calculating a zoom value for enlarging the active image;

wherein the determining step comprises determining the offset based on the ~~shift parameters and the zoom value.~~

23. (Previously Presented) The tangible computer readable medium of claim 21, wherein the active image area is written to a memory buffer representing the video display prior to display on the video display and wherein the adjusting step for implementation by the general purpose computer includes the step of:

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adjusting the position within the memory buffer where the active image area is written to move the position of the active image within the video display.

24. (Previously Presented). The method of claim 1, wherein the step of adjusting the offset further includes moving the active image to an area different from an area of the previously stored offset after a predetermined time interval has elapsed.